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VAGOSIMPATIC RELATIONSHIP IN DEVELOPMENT OF MYOPIC REFRACTION OF STUDENTS

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Emotional-stress pressure develops in students in the conditions of educational activity and especially strengthens during the session, which leads to significant mental, neuroendocrine and vegetative shifts. A visual analyzer is subjected to a special load during the training period, since the main part of the information comes through the organ of vision.

The aim of our work was to study the vagosympathetic correlation in the development of myopic refraction in students.

Materials and methods of research: In this regard, was conducted a research of visual acuity for distance (if necessary, vision correction was carried out) in medical students of the 2nd course using the Golovin-Sivtsev tables. A total of 30 male and female students, aged 18 to 20, were examined.

Results: As a result of the research, it was found that myopic refraction in medical students is 33%, while in the young population of Ukraine this percentage is 15-20%. According to the works of Marchuk SA, (2006), the number of students with higher degrees of myopia increases by 5-8% as you move from course to course. It is obvious that the cause of the disability of the ciliary muscle is intensive visual work at close distance, and with the worsening of external and internal stimuli occur spasms of accommodation.

One of the reasons for the spasm of accommodation is the result of an active predominance of the cholinergic (parasympathetic) component of the tone of the autonomic nervous system over the adrenergic one. An increase in the level of sympathetic influences of the tone of the autonomic nervous system causes an increase in the reserve of absolute accommodation and the volume of relative accommodation of the eye. In persons with an equal representation of the vegetative balance, the work of the accommodative apparatus at the shortest distance is most balanced.

In this regard, to identify this dependence in our research, we carried out a physical load of a dynamic nature in the form of performing work on a bicycle ergometer, with a constant power of 200 W and a rotational frequency of 60 Hz (to failure). It was revealed that different reactions of the cardiovascular system appear on the presented load: in sympathotonics, the increase in BP of the systolic system is more than 20 mm Hg; In the Vagotonics - the systolic blood pressure is less than 20 mm Hg; In normotonics - a change in blood pressure was not observed.

The conducted research of functional indicators confirmed that myopic refraction is observed in the greatest percentage of cases in Vagotonics - 19%; The smallest - in normotonics - 5% and the average percentage value of the occurrence - in sympathotonics - 9%.

Conclusions: Thus, the obtained result indicates the lowest stability of the working capacity of the accommodative device for the short distance in persons with the predominance of parasympathetic tone of the VNS under the influence of emotional stress. The risk of myopia in persons with a predominance of the parasympathetic tone of the autonomic nervous system has been established.

The practical importance of the work confirms the advisability of including in the number of methods for examining the health of students the determination of the level of the vegetative balance in order to identify individuals with a prevalence of the parasympathetic tone of the autonomic nervous system most at risk of developing accommodation disorders and the formation of myopic refraction. Persons with a prevalence of parasympathetic tone of the VNS during intensive lessons and sessions, should be conducted corrective measures for the prevention of visual fatigue, spasm of accommodation.

LEVEL OF BRONCHIAL ASTHMA CONTROL WITH REGARD TO GLN27GLU POLYMORPHISM IN THE β_2-ADRENERGIC RECEPTOR GENE

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The aim of our research was to identify asthma control level with regard to Gln27Glu polymorphism in the $ADRB_2$ gene.

Materials and methods. We examined 195 with bronchial asthma patients and 95 apparently healthy individuals. Patients with BA were divided into 3 groups depending on the genotypes for Gln27Glu polymorphism in the $ADRB_2$ gene. Asthma control was assessed by means of Asthma Control Questionnaire-5 (ACQ-5) and respiratory function evaluation. Gln27Glu (rs1042714) polymorphism in the $ADRB_2$ gene was detected using polymerase chain reaction. Statistical analysis was performed using SPSS–21 program.

Results: The carriers of Glu27Glu genotype (54,9 %) in the $ADRB_2$ gene more often had uncontrolled asthma than the carriers of Gln27Gln (29,0 %) and Gln27Glu (16,1 %) genotypes. The minor allele homozygotes had more expressed bronchial obstruction and greater need in using short-acting β_2-agonists as compared with the major allele homozygotes and heterozygotes.

Conclusions. It was established that Glu27Glu genotype for Gln27Glu polymorphism in the $ADRB_2$ gene was associated with lower level of asthma control, FEV_1 and greater frequency of SABA use.

AMIODARON-INDUCED THYROID DYSFUNCTION IN PATIENTS WITH ISCHEMIC HEART DISEASE

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Amiodaron treatment is associated with thyroid dysfunction. Besides dyslipidemia, thyroid dysfunction can induce insulin resistance, hypertension, endothelial dysfunction and poor response to antiarrhythmic therapy.

Study objectives: to determine prevalence of thyroid dysfunction among patients with ischemic heart disease (IHD) taking amiodarone in Sumy region.

Methods: we conducted a retrospective study of patients ≥50 years of age who were identified in Sumy Regional Clinical Hospital and Sumy Clinical Hospital №4 during 2015-2017 period. Patients reported clinical characteristic of IHD including history of arrhythmia, thyroid gland diseases. They were on antiischemic and antiarrhythmic therapy including amiodarone in dose 200-